

WHAT IS CLAIMED IS:

1. The process for positioning a first sample plate in an analytical apparatus and for removing a second sample plate from the analytical apparatus which comprises:

- 5                   (a) moving said first sample plate into said analytical apparatus along an entry path and
- (b) concomitantly with step (a) moving said second sample plate from said analytical apparatus along an exit path, at least a portion of which is vertically spaced apart from said entry path and which prevents collision of said
- 10   first sample plate with said second sample plate.

2. Apparatus for positioning a first sample plate in an analytical apparatus and for removing a second sample plate from the analytical apparatus which comprises:

- 15                   (a) means for moving said first sample plate into said analytical apparatus along an entry path and
- (b) means for moving said second sample plate concomitantly with movement of said first sample plate from said analytical apparatus along an exit path, at least a portion of which is positioned in a vertically spaced apart position
- 20   from said entry path while avoiding collision of said first sample plate with said second sample plate.

3. The process of claim 1 wherein a portion of said entry path is positioned below said exit path.

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4. The process of claim 1 wherein a portion of said entry path is positioned above said exit path.

5. The apparatus of claim 2 wherein a portion of said entry path is

positioned below said exit path.

6. The apparatus of claim 2 wherein a portion of said entry path is positioned above said exit path.

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7. The apparatus of claim 2 wherein a first direction for moving said first sample plate and a second direction for moving said second sample plate are reversed after completing moving said first sample plate by step (a) and said second plate by step (b).

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8. The apparatus of claim 5 wherein a first direction for moving said first sample plate and a second direction for moving said second sample plate are reversed after completing moving said first sample plate by step (a) and said second plate by step (b).

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9. The apparatus of claim 6 wherein a first direction for moving said first sample plate and a second direction for moving said second sample plate are reversed after completing moving said first sample plate by step (a) and said second plate by step (b).

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10. The process of claim 1 wherein a first direction for moving said first sample plate and a second direction for moving said second sample plate are reversed after completing moving said first sample plate by step (a) and said second plate by step (b).

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11. The process of claim 3 wherein a first direction for moving said first sample plate and a second direction for moving said second sample plate are reversed after completing moving said first sample plate by step (a) and said second plate by step (b).

